

HOW CHP FITS INTO CLIMATE GOALS

NISOURCE INC.

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A word about NiSource

- Electric Utility – NIPSCO
- Natural Gas Pipeline Segment
- Natural Gas Distribution Companies (3d largest in U.S.)
- Primary Energy
- NiSource Energy Technologies
- Operations from Gulf to Maine to NW Indiana

NiSource CHP Projects

- Whiting Clean Energy
- 525 MW NGCC
- Dry-Low NOX
- SCR
- Designed to Produce Steam for BP Refinery and sell by-product electricity to the grid



NiSource CHP Projects

- Hilton Garden Inn
- 3 Microturbines
- Supplies half of electric needs
- Heat for water supply, spa, swimming pool, space heat
- Fuel cell, solar cells to be added
- Reliability



NiSource CHP Projects

- Breeden YMCA
- Two 60kW microturbines
- 25% of summer load
- 70% of winter load
- Water supply, swimming pool and space heat
- Will save 10% of overall energy costs
- Back up power – emergency shelter



NiSource CHP Projects

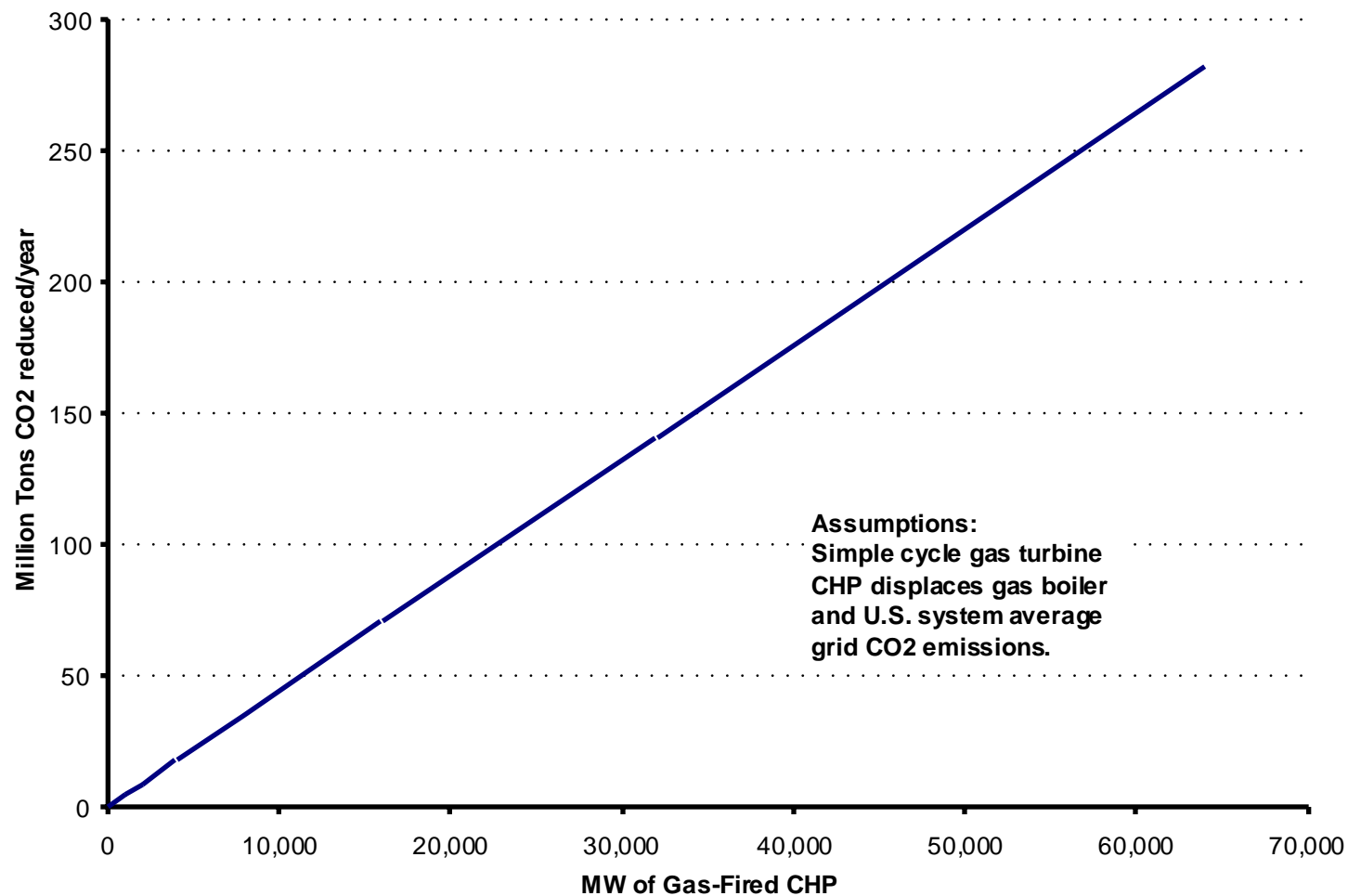
- Walgreens Drug Store
- World's first commercial DG-CHP system
- 40% efficient
- New system 72% efficient
- Grid isolatable
- Electricity, heat, cooling, dehumidification



CHP – THE BEST CHOICE

- The key is EFFICIENCY
- Increasing supply-side efficiency meets both economic and climate needs
- Sustainable
- Fuel switching (coal to gas) is very costly
- Only so much can be achieved by upgrading existing generating stations
- Other options have permitting/technology limits
- CHP is highly efficient and has other benefits

CO₂ Impact of Increased CHP



CHALLENGES

- Registry programs must recognize growth and efficiency
- Baselines and reduction targets should be set based upon carbon intensity
- Measurement issues need to be addressed